

**10/578185**

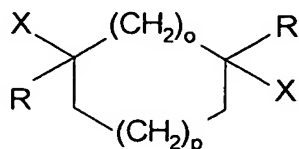
**IAP12 Rec'd PCT/PTO v4 MAY 2006**

**THE FOLLOWING ARE THE ENGLISH TRANSLATION  
OF ANNEXES TO THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT (ARTICLE 34):**

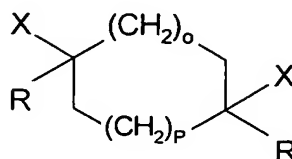
**Amended Sheets (Pages 17 & 18)**

We claim:

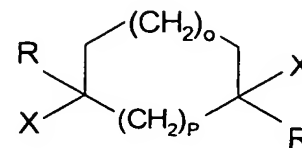
1. A substituted cycloalkane of the formula Ia, Ib, Ic:



Ia



Ib



Ic

where

R is C<sub>1</sub>-C<sub>6</sub>-alkyl,

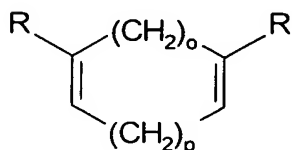
X is halogen, OR<sup>1</sup> or OCOR<sup>1</sup>, where R<sup>1</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl,

o = 1 and p = 2, or

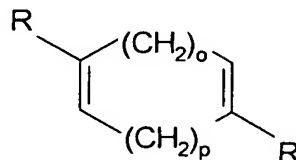
o = 1 or 2, p = 2 or 3 and o+p = 4, or

o = 1 or 2, p = 3 or 4 and o+p = 5.

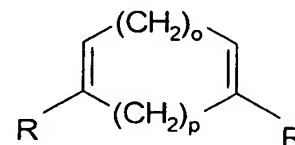
2. A compound as claimed in claim 1 in which R is methyl.
3. A compound as claimed in claim 1 or 2 in which X is chlorine.
4. A compound as claimed in claim 1 selected from among 1,4-dichloro-1,4-dimethylcyclooctane, 1,5-dichloro-1,5-dimethylcyclooctane and mixtures thereof.
5. A process for preparing a substituted cycloalkane of the formula Ia, Ib oder Ic as claimed in claim 1, which comprises reacting a cycloalkapolyene of the formula IIa, IIb oder IIc



IIa



IIb



IIc

with a compound HX at below 40°C, where the symbols R, X, o and p are as defined in claim 1.

6. A process as claimed in claim 5, wherein the compound HX used is gaseous hydrogen chloride.
- 5 7. A process as claimed in claim 5 or 6, wherein the cycloalkapolyene of the formula II used is 1,5-dimethylcycloocta-1,5-diene and/or 1,6-dimethylcycloocta-1,5-diene.
- 10 8. A process as claimed in any of claims 5 to 7, wherein the reaction is carried out in the absence of a solvent or in the presence of an aprotic solvent.
9. A cationic polymerization process which comprises polymerizing cationically polymerizable ethylenically unsaturated monomers in the presence of a substituted cycloalkane of the formula I as claimed in claim 1 and a Lewis acid.
- 15 10. A process as claimed in claim 9, wherein the compound of the formula I is 1,5-dichloro-1,5-dimethylcyclooctane and/or 1,4-dichloro-1,4-dimethylcyclooctane.
- 20 11. A process as claimed in claim 9 or 10, wherein the cationically polymerizable ethylenically unsaturated monomers include isobutene.